Amendments to the Claims

Please amend the claims as follows:

1. (Original) A motor comprising: an engine block with a three or more cylinders arranged to fire with a firing order; a fuel injector associated with each cylinder; and a recirculation system comprising fluid transfer paths which are arranged to provide a fluid connection between cylinders sequentially in the firing order of the motor, the motor configured such that combustion in a cylinder creates a combusted mixture having a combustion pressure, which combustion pressure forces some of that combusted mixture to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order.

2. (Currently amended) A motor ~~as claimed in claim~~ 1 comprising: an engine block with three or more cylinders arranged to fire with a firing order; a fuel injector associated with each cylinder; and a recirculation system comprising fluid transfer paths which are arranged to provide a fluid connection between cylinders sequentially in the firing order of the motor, the motor configured such that combustion in a cylinder creates a combusted mixture having a combustion pressure, which combustion pressure forces some of that combusted mixture to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein each cylinder has an injector body associated therewith, with each injector body having an internal chamber in communication with a fuel inlet port for delivering fuel into the internal chamber, a fuel outlet port for delivering fuel under pressure from the chamber into the associated cylinder, a mixture inlet port and a mixture outlet port, with the mixture inlet port of each injector body in fluid communication with the mixture outlet port of an injector body associated with the immediately preceding cylinder in the firing order of the motor, the motor configured to deliver combusted mixture under combustion pressure and temperature from an outlet port of an injector body

associated with a cylinder that has just fired to an inlet port of an injector body associated with the next cylinder in the firing order of the motor to at least partly mix with fuel in the internal chamber of the injector body associated with said next cylinder in the firing order to improve the combustion properties of the fuel.

3. (Original) A motor as claimed in claim 2, wherein the fuel inlet port of each injector body is configured for receipt of a respective fuel injector.

4. (Previously presented) A motor as claimed in claim 2, wherein each mixture inlet port comprises a non-return valve which allows the mixture to travel into the internal chamber through the port but not out of the internal chamber through the port.

5. (Previously presented) A motor as claimed in claim 2, wherein each mixture outlet port comprises a non-return valve which allows mixture to travel out of the internal chamber through the port but not into the internal chamber through the port.

6. (Previously presented) A motor as claimed in claim 2, wherein each fuel inlet port comprises a non-return valve which allows fuel to flow into the internal chamber through the fuel inlet port, but not out of the internal chamber through the fuel inlet port.

7. (Previously presented) A motor as claimed in claim 2, wherein transfer paths are provided to fluidly connect the mixture inlet port of each injector body with the mixture outlet port of the injector body associated with the immediately preceding cylinder in the firing order.

8. (Original) A motor as claimed in claim 7, wherein the transfer paths comprise pipes or tubes.

9. (Currently amended) A motor ~~as claimed in claim 1~~ comprising: an engine block with three or more cylinders arranged to fire with a firing order; a fuel injector associated with each cylinder; and a recirculation system comprising fluid transfer paths which are arranged to

provide a fluid connection between cylinders sequentially in the firing order of the motor, the motor configured such that combustion in a cylinder creates a combusted mixture having a combustion pressure, which combustion pressure forces some of that combusted mixture to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein the recirculation system is arranged substantially internally within a cylinder head of the motor.

10. (Original) A motor as claimed in claim 9, wherein the cylinder head comprises a pre-mix chamber associated with each cylinder, and the cylinder head includes transfer paths configured to deliver combusted mixture under combustion pressure and temperature from the pre-mix chamber associated with a cylinder that has just fired to the pre-mix chamber associated with the next cylinder in the firing order.

11. (Original) A motor as claimed in claim 10, wherein each transfer path comprises at least one non-return valve configured to allow combusted mixture under combustion pressure and temperature to be delivered to the pre-mix chamber associated with the next cylinder in the firing order.

12. (Previously presented) A motor as claimed in claim 10, wherein a fluid path is provided between each pre-mix chamber and the respective cylinder.

13. (Original) A motor as claimed in claim 12 wherein each fluid path comprises a nozzle to deliver mixture for combustion into the respective cylinder under pressure.

14. (Currently amended) A motor ~~as claimed in claim 1~~ comprising: an engine block with three or more cylinders arranged to fire with a firing order; a fuel injector associated with each cylinder; and a recirculation system comprising fluid transfer paths which are arranged to provide a fluid connection between cylinders sequentially in the firing order of the motor, the

motor configured such that combustion in a cylinder creates a combusted mixture having a combustion pressure, which combustion pressure forces some of that combusted mixture to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein the motor is configured to operate in a two-stroke configuration and wherein the motor is configured such that the combusted mixture is delivered to at least partly mix with the fuel for the next cylinder in the firing order as the piston in said next cylinder is nearing the top of its compression stroke.

15. (Original) A motor as claimed in claim 14, wherein the motor is configured such that when a cylinder is on its compression stroke, some uncombusted air/fuel mixture is delivered under relatively low pressure to the next cylinder in the firing order said next cylinder is undergoing its compression stroke.

16. (Currently amended) A motor ~~as claimed in claim 1~~ comprising: an engine block with three or more cylinders arranged to fire with a firing order; a fuel injector associated with each cylinder; and a recirculation system comprising fluid transfer paths which are arranged to provide a fluid connection between cylinders sequentially in the firing order of the motor, the motor configured such that combustion in a cylinder creates a combusted mixture having a combustion pressure, which combustion pressure forces some of that combusted mixture to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein the motor is configured to deliver some uncombusted mixture from a cylinder as its piston is undergoing a compression stroke to a fluid transfer path which provides a fluid connection between that cylinder and the following cylinder in the firing order, such that when combustion occurs in the cylinder, the combusted mixture from that cylinder forces the uncombusted mixture from the transfer path to mix with fuel for the next cylinder in the firing order.

17. (Previously presented) A motor as claimed in claim 1, wherein the motor is an axial motor.

18. (Original) A recirculation system for a motor having three or more cylinders arranged to fire with a firing order, comprising: a plurality of fuel injector bodies, each injector body having an internal chamber in communication with a fuel inlet port for delivering fuel into the internal chamber, a fuel outlet port for delivering fuel under pressure into an associated cylinder, a mixture inlet port and a mixture outlet port, and arranged with the mixture inlet port of each injector body in fluid communication with the mixture outlet port of an injector body associated with the immediately preceding cylinder in the firing order of the motor; the recirculation system configured to deliver combusted mixture from an outlet port of an injector body associated with a cylinder that has just fired to an inlet port of the injector body associated with the next cylinder in the firing order to at least partly mix with fuel in the internal chamber of that next injector body to improve the combustion properties of the fuel, and to deliver a mixture of the combusted mixture and fuel under elevated temperature and pressure from the fuel outlet port of said injector body associated with the next cylinder in the firing order.

19. (Original) A recirculation system as claimed in claim 18, wherein the fuel inlet port of each injector body is configured for receipt of a respective fuel injector.

20. (Previously presented) A recirculation system as claimed in claim 18, wherein each mixture inlet port comprises a non-return valve which allows the mixture to travel into the internal chamber through the port but not out of the internal chamber through the port.

21. (Previously presented) A recirculation system as claimed in claim 18, wherein each mixture outlet port comprises a non-return valve which allows mixture to travel out of the internal chamber through the port but not into the internal chamber through the port.

22. (Previously presented) A recirculation system as claimed in claim 18, wherein each fuel

inlet port comprises a non-return valve which allows fuel to flow into the internal chamber through the fuel inlet port, but not out of the internal chamber through the fuel inlet port.

23. (Previously presented) A recirculation system as claimed in claim 18, wherein the mixture outlet port of each injector body is fluidly connected to the mixture inlet port of the injector body associated with the next cylinder in the firing order of the motor by a transfer path.

24. (Original) A recirculation system as claimed in claim 23, wherein each transfer path comprises a pipe or tube.

25. (Previously presented) A recirculation system as claimed in claim 18, configured such that the combusted mixture at least partly atomises the fuel in the internal chamber to which the combusted mixture has been delivered under combustion pressure and temperature.

26. (Currently amended) A method of enhancing combustion in a motor having an engine block with at least three cylinders arranged to fire with a firing order, and a fuel injector associated with each cylinder, comprising delivering a combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and delivering a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order.

27. (Currently amended) A method ~~as claimed in claim 26~~ of enhancing combustion in a motor having an engine block with at least three cylinders arranged to fire with a firing order, and a fuel injector associated with each cylinder, comprising delivering a combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and delivering a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein each cylinder has an injector body

associated therewith, with each injector body having an internal chamber in communication with a fuel inlet port for delivering fuel into the internal chamber, a fuel outlet port for delivering fuel under pressure from the chamber into the associated cylinder, a mixture inlet port and a mixture outlet port, with the mixture inlet port of each injector body in fluid communication with the mixture outlet port of an injector body associated with the immediately preceding cylinder in the firing order of the motor; and wherein the method comprises delivering combusted mixture under combustion pressure and temperature from an outlet port of an injector body associated with a cylinder that has just fired to an inlet port of an injector body associated with the next cylinder in the firing order of the motor to at least partly mix with fuel in the internal chamber of that adjacent injector to improve the combustion properties of the fuel.

28. (Original) A method as claimed in claim 27, wherein transfer paths are provided to link the mixture outlet port of each injector body with the mixture inlet port of the injector body associated with the next cylinder in the firing order and the step of delivering combusted mixture under combustion pressure and temperature from an outlet port of an injector body associated with a cylinder that has just fired to an inlet port of an injector body associated with the next cylinder in the firing order of the motor, comprises transferring the combusted mixture via the respective transfer path.

29. (Currently amended) A method ~~as claimed in claim 26~~ of enhancing combustion in a motor having an engine block with at least three cylinders arranged to fire with a firing order, and a fuel injector associated with each cylinder, comprising delivering a combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and delivering a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein the ~~recirculation~~ step of delivering the combusted mixture under combustion pressure and temperature to at least partly mix with fuel for the next cylinder in the firing order occurs internally within a cylinder head of the motor.

30. (Original) A method as claimed in claim 29, wherein a pre-mix chamber is associated with each cylinder, and the method comprises delivering combusted mixture under combustion pressure and temperature from the pre-mix chamber associated with a cylinder that has just fired to the pre-mix chamber associated with the next cylinder in the firing order.

31. (Original) A method as claimed in claim 30, comprising delivering mixture for combustion from each pre-mix chamber into the respective cylinder under pressure.

32. (Currently amended) A method ~~as claimed in claim 26~~ of enhancing combustion in a motor having an engine block with at least three cylinders arranged to fire with a firing order, and a fuel injector associated with each cylinder, comprising delivering a combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the fuel, and delivering a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, wherein the motor is configured to operate in a two-stroke configuration, and the step of delivering combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order occurs as the piston in said next cylinder is nearing the top of its compression stroke.

33. (Original) A method as claimed in claim 32, comprising delivering from a cylinder on its compression stroke some uncombusted air/fuel mixture under relatively low pressure to the next cylinder in the firing order as said next cylinder is undergoing its compression stroke.

34. (Currently amended) A method ~~as claimed in claim 26~~ of enhancing combustion in a motor having an engine block with at least three cylinders arranged to fire with a firing order, and a fuel injector associated with each cylinder, comprising delivering a combusted mixture under combustion pressure and temperature from a cylinder which has just fired to at least partly mix with fuel for the next cylinder in the firing order to improve the combustion properties of the

fuel, and delivering a mixture of the combusted mixture and fuel under elevated temperature and pressure into said next cylinder in the firing order, the method further comprising delivering some uncombusted mixture from a cylinder as its piston is undergoing a compression stroke to a fluid transfer path, which provides a fluid connection between that cylinder and the following cylinder in the firing order, such that when combustion occurs in the cylinder the combusted mixture from that cylinder forces the uncombusted mixture from the transfer path to mix with fuel for the next cylinder in the firing order.